

## Using Interdisciplinary Integration in Teaching English of Oil and Gas Students in Russia

<sup>a</sup>Aygul Z. Ibatova, <sup>b</sup> Aleksandr G. Ilin, <sup>c</sup>Natalia V. Ippolitova, <sup>d</sup> Marina A. Stavruk, <sup>a</sup>Natalia L. Ivanova

<sup>a</sup>Industrial University of Tyumen, the Branch of IUT in Surgut; <sup>b</sup> Elabuga Institute of KFU; <sup>c</sup> FGBOU VO Shadrinsk State Pedagogical University; <sup>d</sup>Surgut State University, RUSSIA

### ABSTRACT

The article discusses the problem of foreign language training of students of oil and gas faculty with the use of interdisciplinary integration as an effective teaching method. A brief review of the application of this method in the foreign language classes with students at the Federal State Institution of Higher Education of Tyumen Industrial University is presented. Approvals and the results of the mentioned method are described.

### KEYWORDS

teaching English as a second language, professional communication, interdisciplinary integration

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## Introduction

Development of integrative global processes implies the need for special language training of oil and gas students, the formation of the students' abilities to communicate in a foreign language in order to solve professional problems. The role of the foreign language is significantly increased, and calls for improving the quality and effectiveness of training of future specialists. The effectiveness of foreign language education depends on teaching methods and the choice of methods, pedagogical conditions aimed at solving tasks.

For the first time in their studies Ya. A. Komensky proposed the idea of the relationship between academic disciplines, he claimed: "... all that is in mutual communication, should be taught in the same connection. Always and everywhere, everything should be taken together that is connected with one another..."[1]. This new paradigm was fully described by N.E. Astafieva, U.K. Babanskii, V.P. Bepalko and others. Integration is the process of interpenetration of the structural elements of different areas of knowledge, which is accompanied by an

**CORRESPONDENCE** Aygul Z. Ibatova

✉ aigoul@rambler.ru

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increase of generality, complexity, compactness and organization (U.P. Dick, A.A. Pinsky, V.V. Usanov) [2]. The following authors E.E. Ivanova, E.I. Veselova, L.R. Mukharlyamova write about interdisciplinary communication as the principle of development of the content of education on the basis of other disciplines influence, which helps the students to understand the subject better by deepening in other subjects of special issues [3].

The usage of interdisciplinary integration in teaching English for specific purposes was described by I.L. Bim, Y.M. Kolker, A.P. Minjar-Belorucheva [4]. However, analysis of the current state of practice of the Russian higher education in the field of teaching foreign language shows that, despite a certain degree of theoretical elaboration of the designated problem, oil and gas graduates of Tyumen Industrial University have the low level of foreign language, they do not focus on its use in professional communication situations.

#### **Theoretical training of oil and gas students during learning a foreign language**

The content of foreign language training for specific purposes depends on the following factors: 1) the professional requirements of Russian society to the specialist; 2) features of vocational training of oil and gas students; 3) the ideas of interdisciplinary integration. Also, we pay attention at the difficulties incurred by the students in the process of learning a foreign language in the professional field: linguistic (low level of formation of linguistic skills, a low level of self-control); didactic (dominance in the training of one kind of foreign language speech activity, a discrepancy of teaching methods to individual characteristics of students); axiological (lack of interest and low level of motivation for learning foreign language); professional (lack of professional knowledge in the specialty, leading to the inability to carry out foreign-language communication in the professional sphere); personality (understated self-esteem, lack of confidence in the possibility of mastering a foreign language, the fear of making a mistake, and others.).

Theoretical training of oil and gas students of in the foreign language teaching includes a set of theoretical knowledge:

- linguistic;
- sociolinguistic;
- professionally-communicative.

This feature set is based on the knowledge of the specifics of the study of foreign language by oil and gas students, where all training must reflect the characteristics of disciplines and professions that it serves, therefore, all training activities, content and methodology of training close in to the needs of future professional activity. This work aimed at mastering the basic communicative knowledge is carried out by using professionally-oriented texts, based on the organic connection of studying the basic material of disciplines of general professional training and discipline "Foreign Language" in the section of Humanitarian disciplines, on the basis of which is provided by the integration of the acquired knowledge and implemented the use of the integration of different forms of classes, requiring independence, activity from students that helps to activate the acquired knowledge, the development of logical thinking, communication skills.

Thus, learning a foreign language by oil and gas students occurs through the use of an effective integration of the various forms of employment and interdisciplinary integration.

#### **Interdisciplinary integration**

In the process of learning a foreign language for specific purposes interdisciplinary links should be allocated - the mutual consistency of training programs, due to the system of science and didactic purposes. Didactic principles of scientific and systematic knowledge require location in the curriculum of individual disciplines so that the study of one could rely on the knowledge in other disciplines [5]. This provision is important in learning a foreign language for specific purposes in the professional sphere.

Realization of interdisciplinary connections in the classes, integration of disciplines is considered possible under the following conditions: the close relationship branches of integrated science disciplines; the close objects of study; the presence of the general rules and theoretical concepts.

A survey of teachers of foreign languages (89%) showed that the interdisciplinary integration of knowledge is a promising way to improve the content of higher education. Teachers point to the special difficulties among the students, where specialization begins only in the third year of studying, while foreign language is studied for two courses. Students can not cope with the professional terminology, so teachers indicate the need to conduct classes in a foreign language in close connection with the profiling academic disciplines that contribute to the implementation of foreign language knowledge of the principle of continuity in the other subjects and, on the contrary, it contributes to the formation of the system of knowledge based on the development of general scientific ideas and concepts of cognitive activity and interests of students, the formation of the correct worldview, polytechnic knowledge and skills, co-ordination in the work of teachers of various subjects, their co-operation, development of uniform pedagogical requirements in the collective, unified interpretation of scientific concepts, consistency in the conduct of complex forms of organization of educational process .

In order to form a system of knowledge and the development of integrated courses M.V. Bulanov-Toporkova identifies the following types of interdisciplinary connections: interdisciplinary teaching and direct connections; interdisciplinary research and direct communication; mental-mediated communication; application-mediated communication [6].

We are interested in the formation of indirect-application communications, the use of which allows the use of concepts and terms of a scientific discipline in the study of the others [6]. Such indirect-application communication is used for teaching a foreign language for specific purposes where integrated disciplines are the "Foreign Language" and "Law", "Economy of Industry", "Business Economics" and "Foreign Language", "Russian language and Culture of Speech" and "Foreign Language", "Foreign Language" and "Oil Business" in the study which the professional terms are used in the study of a foreign language at the level of integration of knowledge.

The most effective classification of interdisciplinary integration is the classification allocated by the method of content deployment in time. "Vertical" interdisciplinary integration - logical and temporal relations are not the same. It



should be noted that this type of integration is characteristic of the professions where a foreign language is taught for two years. For oil and gas students pronounced a "horizontal" integration is the best one where the blocks of the selected subjects are studied simultaneously, in parallel, but with varying degrees of interpenetration. It is this integrated region (the relationship between the content of the special disciplines) promotes effective learning a foreign language and the formation of a complex linguistic, sociolinguistic, professional knowledge and communication enriches the world, develops creativity, mental independence.

We introduced additional content elements to the content of the program on discipline "Foreign Language", making up for the missing components of professional vocabulary, professional knowledge based on interdisciplinary integration.

Studying the curriculum program for oil and gas students and analyzing textbooks for foreign language in High School, we come to the conclusion that it is impossible to isolate the area of integrated disciplines of data since the time frame does not match. So, in the main "English Language" textbooks for technical specialties the technical texts are suggested to be studied in the second year, when profiling discipline is studied in the third year. In addition, there is another problem that the content of textbooks proposed by the Ministry of Higher Education of Russia does not respond to the training level of students at the beginning stage after high school and the level of difficulty of the material in the textbooks, so the tutorials do not allow to fully train communication in English, taking into account all the specifics of profession and the requirements of the modern society. Thus, for any educational institution to create your own settings are not lost its relevance, and we see the only way to master the integrated region successfully, - to develop training complex on the basis of interdisciplinary integration, which allows you to take into account the expertise directly related to the profile of the specialty.

The main feature of the educational tutorial complex is the presence of authentic material, allowing to organize the work, taking into account the faculty and specialty, the level of formation of linguistic, communicative sociolinguistic professional-communicative knowledge as well as their individual interests. Authentic materials - all kinds of materials borrowed from the real world (newspaper, magazine articles, audio, video, realities such as maps, schedules, menus, tickets, etc.) [7]. One of the major stages of work on the educational tutorial complex is the selection and classification of material related to the culture of a foreign language, which would contain linguistic phenomena unique to the language, as well as examples of both verbal and non-verbal interaction of speakers. The use of authentic materials meets these requirements best of all. The most important is that the material contained in the authentic information is undoubtedly more accurate and highly reliable and up to date, and is directly related to the so-called special interests of students.

Authentic material is in this case, not only the basis for the formation of linguistic knowledge, professional vocabulary, specific grammatical structures contained in the texts, as linguistic phenomena unique to writing professional speech, where students learn to identify different styles of language, fix language formulas, rules of conduct and documentation. When working with this material,

students are offered a system of exercises, aimed at creating a just linguistic knowledge.

For example, when working with authentic material, students are encouraged to write a cliché in the table, create a dictionary of abbreviations, sample letters to write, etc. For the development of writing skills of professional speech we use different types of exercises, where students have the opportunity to work with such models of language, imitation, substitution, transformation, selection, construction, cut. During these exercises, students acquire knowledge necessary for further improvement and development of skills to transfer the main idea, to make the description, comparison, comparing the facts, review, give characteristic expression evaluation, own attitude, to comment on anything.

Thus, we can say that the use of the educational tutorial complex on the basis of authentic materials from different scientific fields (the economy, the oil industry, geology) in the language training is an incentive for the development of basic communication skills necessary for teaching-oil foreign language, it allows you to select and analyze the linguistic formulas and communication styles used in one way or another professional activity, highlight the ethical, communicative features of communication between representatives of different linguistic societies.

Increasing the level of professional communicative students' knowledge in the field of professional communication in a foreign language involves the formation of knowledge, allowing to understand foreign-language statements in accordance with the specific situation of communication, speech task and communicative intent. Based on this understanding of the composition of knowledge, the most successful was the usage of such types of exercises as receptive, reproductive, productive. The main objective of these exercises is to develop linguistic, socio-linguistic and vocational knowledge of communication, improving the skills of professionally-oriented communication in a foreign language. At the first stage, exercise and micro-dialogues that mimic real communication were effective. These exercises were developed on the basis of professional orientated texts. Due to these exercises the students could form the knowledge and skills of communication in a foreign language according to the communicative situation and the installation of communication in a particular area, including the area of future professional activity.

## Conclusion

Checking the formation of linguistic, socio-linguistic, professional and communicative knowledge in the process of learning a foreign language was realized according to the test object and the type of speech activity. Testing was the main form of control. The tests have been developed, corresponds to a certain type of language skills: oral and written. (Passov E.I., Kusovlev V.P., Kuzovleva N.E., Zarkova) [8]. In order to test the linguistic knowledge the following tasks have been proposed: to distinguish the value of the lexical units and their use in a given context; to use of grammatical forms in context and situations properly; to distinguish the structure of simple and complex sentence in a given context, as well as other tasks for checking the lexical, grammatical, articulatory aspect of speech.



The sociolinguistic and professional communication groups of knowledge were tested in the course of listening and speaking [9]. The ability to understand speech while listening was checked, the content of the dialogue, the communicative intent of its participants, the knowledge of the language of the material that provides the perception of oral sounding text [10, 11]. Students were offered three dialogues and test tasks to them with some answer options. During the inspection of communication skills in a foreign language in their professional activity a communication situation was created, and the student had to build a coherent text with different communicative orientation (narrative, description, message) or to discuss a problem with a partner, to make up a dialogue.

The data obtained in the course of pedagogical experiment were processed by methods of mathematical statistics. In the experiment, took part in all 3 experimental and one control group.

These experimental groups based on the input, intermediate, final test showed that the intermediate step of the testing compared with the results of testing input increased. The number of students with a high level of development of the above knowledge has increased by 10.8%, the average rate increased by 5.6%. In control groups, the increase was marginally higher - by 5%, average - 3%.

Thus, providing students complex knowledge, based on the interdisciplinary integration contributes to raising awareness of linguistic, socio-linguistic, professional and communication of knowledge, contributes to the development of practical skills to apply the knowledge in practice.

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No potential conflict of interest was reported by the authors.

#### Notes on contributors

**Aygul Zufarovna Ibatova** is an Associate Professor of the Chair “Sciences and Humanities”, Industrial University of Tyumen, the Branch of IUT in Surgut, Russia

**Aleksandr Gennadjevich Ilin** is an Associate Professor of Philosophy and Sociology, Elabuga Institute of KFU, Russia

**Natalia Viktorovna Ippolitova** is a Professor of the Chair “Professional and Technological Education”, Shadrinsk State Pedagogical University, Russia

**Marina Alexandrovna Stavruk** is an Associate Professor of the Department of Foreign Languages, Surgut State University, Russia

**Ivanova Natalia Leonidovna** is an Associate Professor of the Chair “Sciences and Humanities”, Industrial University of Tyumen, the Branch of IUT in Surgut, Russia

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